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09/404,597	09/24/1999	JOHN RAUSER	07744.0009	8566

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EXAMINER
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WASSUM, LUKE S

ART UNIT	PAPER NUMBER
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2177

DATE MAILED: 07/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/404,597

Applicant(s)

RAUSER ET AL.

Examiner

Luke S. Wassum

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Response to Amendment*

1. The Applicants' amendment, filed 11 April 2003, has been received, entered into the record, and considered.

2. As a result of the amendment, claims 1, 4-8, 11, 16 and 17 have been amended, and new claim 28 has been added. Claims 1-28 are pending in the application.

### *Power of Attorney*

3. The submission of a Revocation and Power of Attorney under 37 C.F.R. § 3.73(b) is acknowledged.

### *The Invention*

4. The invention is drawn towards a method of providing recommendations to a user, whereby in addition to information indicative of the user's interests, additional filtering criteria is applied in order to prevent the recommendation of items that, while strictly meeting the interest criteria of the user, are not appropriate for recommendation. Examples of reasons for such items being inappropriate are, for instance, items that are out of stock or otherwise currently unavailable; items which are out of season; or items which the age or other characteristics of the user renders inappropriate.

*Drawings*

5. Although in the Remarks accompanying the amendment, the Applicants' state that new formal drawings have been submitted, no such drawings accompanied the amendment. As such, the objection to the drawings remains.

6. The drawings have been objected to by the Draftsperson under 37 C.F.R. § 1.84 or 1.152 for the reasons shown on the attached form PTO-948. Corrected drawings must be submitted in accordance to the instructions on the "Attachment for PTO-948 (Rev. 03/01, or earlier)".

*Specification*

7. As a result of the amendment to the Specification, the pending objection is withdrawn.

*Claim Objections*

8. As a result of the amendments to claims 1, 4-8, 11 and 16, the pending objections to these claims are withdrawn.

9. Claim 16 is objected to because of the following informalities:

The claim uses the language "selected items", while not specifying the meaning of the term. The examiner recommends the use of language analogous to that used in claims 4-8, such as "items that have satisfied both the constraint and recommendation filters".

Appropriate correction is required.

*Claim Rejections - 35 USC § 112*

10. As a result of the amendment to claim 1, the applicable rejections to claims 1-12 under 35 U.S.C. § 112 are withdrawn.

11. The examiner finds the Applicants' arguments regarding the rejection of claims 1 and 17 under 35 U.S.C. § 112 because of the "predicted values" language convincing. As a result, the applicable rejections to claims 1-12 and 17 are withdrawn.

12. The examiner notes that the Specification pagination cited by the Applicants' in the Remarks is inconsistent with that of the Specification of record. Specifically, the discussion of the term "predicted values" is on page 8 of the Specification of record.

*Claim Rejections - 35 USC § 102*

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 1 and 3-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Hey (U.S. Patent 4,996,642).

15. Regarding claim 1, Hey teaches a method for providing a recommendation list from a plurality of items, comprising the steps of:

- a) specifying an adaptable constraint filter, using constraint forming rules, to select ones of the items satisfying a constraint (see col. 2, lines 27-36; see also col. 7, lines 21-32; see also col. 3, lines 33-38, disclosing that the user can select a specific item as part of the predetermined criteria, and also col. 3, lines 22-24, disclosing that the user can enter selection criteria prior to the recommendation process, thus teaching that the constraint filters are adaptable, since in both cases the user can adapt the constraints to his preferences; see col. 3, lines 16-18, disclosing that items are selected based on one or more predetermined criteria; each individual predetermined criteria, whether entered by the user or not, is analogous to the claimed constraint forming rules);
- b) selecting the ones of the plurality of items that satisfy the constraint filter (see col. 3, lines 24-32; see also col. 7, lines 21-57);
- c) computing predicted values based on a recommendation filter for the selected ones of the items (see col. 4, lines 3-28); and
- d) appending the selected ones of the items meeting predetermined criteria to the recommendation list (see col. 4, lines 3-28).

16. Regarding claim 3, **Hey** additionally teaches a method for providing a recommendation list wherein a predetermined number of items are appended to the list (see col. 7, lines 44-45; see also step 132 in Figure 6).

17. Regarding claim 4, **Hey** additionally teaches a method for providing a recommendation list wherein selecting the ones of the items that satisfy the constraint filter further includes applying a constraint filter containing free variables to the ones of the items (see disclosure that the constraint

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comprises whether or not the item is currently available in inventory by querying a database, col. 3, lines 24-40; see also col. 7, lines 21-57; see also disclosure that the predetermined criteria may be specified by a user prior to the recommendation process, thus requiring the use of free variables, col. 3, lines 22-24).

18. Regarding claim 5, **Hey** additionally teaches a method for providing a recommendation list wherein selecting the ones of the items that satisfy the constraint filter further includes applying a constraint containing bound expressions (see disclosure that the constraint comprises whether or not the item is currently available in inventory by querying a database, col. 3, lines 24-40; see also col. 7, lines 21-57).

19. Regarding claim 6, **Hey** additionally teaches a method for providing a recommendation list wherein selecting the ones of the items that satisfy the constraint filter further includes applying a boolean constraint filter (see disclosure that the constraint comprises whether or not the item is currently available in inventory by querying a database, col. 3, lines 24-40; see also col. 7, lines 21-57; see also col. 3, lines 16-18, where **Hey** teaches that items are selected based on one or more predetermined criteria and on the availability of the item from the source. The application of such criteria would necessarily involve the combination of each individual predetermined criteria, along with the availability criteria, joined together through a boolean 'AND').

20. Regarding claim 7, **Hey** additionally teaches a method for providing a recommendation list wherein selecting the ones of the items that satisfy the constraint filter further includes applying a constraint filter that signifies equality (see disclosure that the constraint comprises whether or not

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the item is currently available in inventory by querying a database, col. 3, lines 24-40; see also col. 7, lines 21-57; see also the use of availability as a criteria, col. 3, lines 24-32, which would constitute a constraint that signifies equality, e.g., does the 'available' flag = 1? Furthermore, the fact that Hey teaches that items are selected based on one or more predetermined criteria (see col. 3, lines 16-18 and 22-24) requires the inclusion of equality constraints. Certainly the selection of a specific item, as taught at col. 3, lines 33-34, would require the use of an equality constraint, such as 'movie title = "Gone With the Wind"').

21. Regarding claim 8, Hey additionally teaches a method for providing a recommendation list wherein selecting the ones of the items that satisfy the constraint filter further includes applying a constraint filter to the ones of the items, wherein the constraint signifies category membership (see disclosure that the constraint comprises whether or not the item is currently available in inventory by querying a database, col. 3, lines 24-40; see also col. 7, lines 21-57).

22. Regarding claim 9, Hey additionally teaches a method for providing a recommendation list wherein computing predicted value further includes evaluating the selected ones of the items with collaborative filtering (see disclosure that the recommendation is based on "the subjective reactions of the group to make accurate recommendations for any person within the group", col. 2, lines 15-20; see also col. 3, lines 22-24, where Hey teaches that the predetermined criteria may be specified by the user prior to the recommendation process).



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23. Regarding claim 10, Hey additionally teaches a method for providing a recommendation list wherein a predetermined number of items are appended to the list, after which the list is truncated (see col. 7, lines 44-45; see also step 132 in Figure 6).

24. Regarding claim 11, Hey additionally teaches a method for providing a recommendation list wherein selecting the ones of the items that satisfy the constraint filter further comprising the steps of:

- a) obtaining data from a user (see col. 3, lines 33-40; see also col. 3, lines 22-24, where Hey teaches that the predetermined criteria may be specified by the user prior to the recommendation process); and
- b) adding the data to the constraint filter (see col. 3, lines 24-40).

25. Regarding claim 12, Hey additionally teaches a method for providing a recommendation list wherein specifying the constraint filter further includes:

- a) obtaining the constraint from an operator (see col. 3, lines 33-40; see also col. 3, lines 22-24, where Hey teaches that the predetermined criteria may be specified by the user prior to the recommendation process); and
- b) storing the constraint filter in memory (see col. 3, lines 24-40).

*Claim Rejections - 35 USC § 103*

26. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

27. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

28. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

29. Claims 16-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hey (U.S. Patent 4,996,642) in view of Jarke et al. ("Query Optimization in Database Systems").

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30. Regarding claim 16, Hey teaches an apparatus designed to provide a recommendation list from a plurality of items in a data processing system substantially as claimed, comprising:

- a) a processing component configured to process instructions for:
  - i) applying a constraint filter to the ones of the items (see col. 3, lines 24-32; see also col. 7, lines 21-57);
  - ii) applying a recommendation filter to the ones of the items (see col. 4, lines 3-28);
  - and
- b) a recommender component configured to append selected items to a recommendation list based on the constraint filter and a recommendation filter (see col. 4, lines 3-28).

Hey does not explicitly teach an apparatus for providing a recommendation list comprising the step of determining an order of the filters to apply to the plurality of items based on the cost of the filters, wherein the constraint filter is applied first when the cost is lower, and applying the recommendation filter first when the cost is lower.

Jarke et al., however, teaches an apparatus for providing a recommendation list comprising the step of determining an order of the filters to apply to the plurality of items based on the cost of the filters, wherein the constraint filter is applied first when the cost is lower, and applying the recommendation filter first when the cost is lower (see extensive discussion of the generation of all reasonable logical access plans for evaluating the query, and selecting the cheapest access plan for execution, section 5, beginning on page 134; see in particular the description of the dynamic query optimization procedure, page 137 col. 1, last paragraph, and col. 2, first paragraph).

It would have been obvious to one of ordinary skill in the art at the time of the invention to choose an access plan to optimize the query execution, since this would allow a system to maximize the output for a given number of resources, minimize the resource usage for a given output, and minimize the response time for a given query language and mix of query types in a given system environment (see section 1.2 Optimization Objectives, beginning on page 113).

31. Regarding claim 17, Hey additionally teaches an apparatus for providing a recommendation list wherein the processing component computes predicted values based on the recommendation filter (see col. 4, lines 3-28).

32. Regarding claim 18, Hey teaches an apparatus for providing a recommendation list substantially as claimed.

Hey does not explicitly teach an apparatus for providing a recommendation list comprising the step of determining an order of the filters to apply to the plurality of items based on the cost of the filters, wherein the constraint filter is applied first when the cost is lower, and applying the recommendation filter first when the cost is lower.

Jarke et al., however, teaches an apparatus for providing a recommendation list comprising the step of determining an order of the filters to apply to the plurality of items based on the cost of the filters, wherein the constraint filter is applied first when the cost is lower, and applying the recommendation filter first when the cost is lower (see extensive discussion of the generation of all reasonable logical access plans for evaluating the query, and selecting the cheapest access plan for

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execution, section 5, beginning on page 134; see in particular the description of the dynamic query optimization procedure, page 137 col. 1, last paragraph, and col. 2, first paragraph).

It would have been obvious to one of ordinary skill in the art at the time of the invention to choose an access plan to optimize the query execution, since this would allow a system to maximize the output for a given number of resources, minimize the resource usage for a given output, and minimize the response time for a given query language and mix of query types in a given system environment (see section 1.2 Optimization Objectives, beginning on page 113).

33. Regarding claim 19, **Hey** additionally teaches an apparatus for providing a recommendation list wherein the processing component applies a constraint filter on a boolean constraint containing free variables (see disclosure that the constraint comprises whether or not the item is currently available in inventory by querying a database, col. 3, lines 24-40; see also col. 7, lines 21-57; see also disclosure that the predetermined criteria may be specified by a user prior to the recommendation process, thus requiring the use of free variables, col. 3, lines 22-24).

34. Regarding claim 20, **Hey** additionally teaches an apparatus for providing a recommendation list wherein the processing component applies a constraint filter containing bound expressions (see disclosure that the constraint comprises whether or not the item is currently available in inventory by querying a database, col. 3, lines 24-40; see also col. 7, lines 21-57).

35. Regarding claim 21, **Hey** additionally teaches an apparatus for providing a recommendation list wherein the processing component applies a constraint filter based on a boolean constraint (see

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disclosure that the constraint comprises whether or not the item is currently available in inventory by querying a database, col. 3, lines 24-40; see also col. 7, lines 21-57; see also col. 3, lines 16-18, where Hey teaches that items are selected based on one or more predetermined criteria and on the availability of the item from the source. The application of such criteria would necessarily involve the combination of each individual predetermined criteria, along with the availability criteria, joined together through a boolean 'AND').

36. Regarding claim 22, Hey additionally teaches an apparatus for providing a recommendation list wherein the processing component applies a constraint filter that signifies category membership (see disclosure that the constraint comprises whether or not the item is currently available in inventory by querying a database, col. 3, lines 24-40; see also col. 7, lines 21-57).

37. Regarding claim 23, Hey additionally teaches an apparatus for providing a recommendation list wherein the processing component applies a constraint filter that signifies equality (see disclosure that the constraint comprises whether or not the item is currently available in inventory by querying a database, col. 3, lines 24-40; see also col. 7, lines 21-57; see also the use of availability as a criteria, col. 3, lines 24-32, which would constitute a constraint that signifies equality, e.g., does the 'available' flag = 1? Furthermore, the fact that Hey teaches that items are selected based on one or more predetermined criteria (see col. 3, lines 16-18 and 22-24) requires the inclusion of equality constraints. Certainly the selection of a specific item, as taught at col. 3, lines 33-34, would require the use of an equality constraint, such as 'movie title = "Gone With the Wind").

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38. Regarding claim 24, Hey additionally teaches an apparatus for providing a recommendation list wherein the processing component computes predicted values by evaluating each ones of the items with collaborative filtering (see disclosure that the recommendation is based on "the subjective reactions of the group to make accurate recommendations for any person within the group", col. 2, lines 15-20; see also col. 3, lines 22-24, where Hey teaches that the predetermined criteria may be specified by the user prior to the recommendation process).

39. Regarding claim 25, Hey additionally teaches an apparatus for providing a recommendation list wherein a predetermined number of items are appended to the list, after which the list is truncated (see col. 7, lines 44-45; see also step 132 in Figure 6).

40. Regarding claim 26, Hey additionally teaches an apparatus for providing a recommendation list further comprising an input component configured to:

- a) obtain the constraint data from an operator (see col. 3, lines 33-40; see also col. 3, lines 22-24, where Hey teaches that the predetermined criteria may be specified by the user prior to the recommendation process); and
- b) store the constraint filter in memory (see col. 3, lines 24-40).

41. Regarding claim 27, Hey additionally teaches an apparatus for providing a recommendation list further comprising an input component configured to:

- a) obtain data from a user (see col. 3, lines 33-40; see also col. 3, lines 22-24, where Hey teaches that the predetermined criteria may be specified by the user prior to the recommendation process); and

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b) add the data to the constraint filter (see col. 3, lines 24-40).

42. Regarding claim 28, Hey additionally teaches an apparatus for providing a recommendation list wherein the processing component is further configured to adaptively specify the constraint filter using a set of constraint forming rules (see col. 3, lines 22-24, disclosing that the user can enter selection criteria prior to the recommendation process, thus teaching that the constraint filters are adaptable, since in both cases the user can adapt the constraints to his preferences; see col. 3, lines 16-18, disclosing that items are selected based on one or more predetermined criteria; each individual predetermined criteria, whether entered by the user or not, is analogous to the claimed constraint forming rules).

43. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hey (U.S. Patent 4,996,642) as applied to claims 1 and 3-12 above, and further in view of Herz (U.S. Patent 6,460,036).

44. Regarding claim 2, Hey teaches a method for providing a recommendation list from a plurality of items substantially as claimed.

Hey does not explicitly teach a method for providing a recommendation list wherein items are appended to the recommendation list when the predicted value exceeds a predetermined number.



**Herz**, however, explicitly teach a method for providing a recommendation list wherein items are appended to the recommendation list when the predicted value exceeds a predetermined number (see step 13B-03 in Figure 13B; see also col. 25, lines 17-65; see also col. 57, line 6 through col. 58, line 23).

It would have been obvious to one of ordinary skill in the art at the time of the invention to append items to the recommendation list when the predicted value exceeds a predetermined number, since this would allow a user to access information of relevance and interest without expending an excessive amount of time and energy searching for the information (see col. 1, lines 45-50), and also because it would efficiently provide only desired information to the user and conserve valuable storage space by only storing those target objects which are relevant to the user's interests (see col. 8, lines 6-9).

#### *Response to Arguments*

45. Applicant's arguments filed 11 April 2003 have been fully considered but they are not persuasive.

46. Regarding the Applicants' argument that the **Hey** reference fails to teach the specification of an adaptable constraint filter using constraint forming rules (beginning on page 10, last paragraph, of the Applicants' Remarks), the examiner respectfully disagrees.

At col. 3, lines 33-38, **Hey** teaches that the user can select a specific item as part of the predetermined criteria. Furthermore, at col. 3, lines 22-24, it is disclosed that the user can enter selection criteria prior to the recommendation process. These passages clearly teach that the

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constraint filters are adaptable, since in both cases the user can adapt the constraints to his preferences.

Furthermore, Hey teaches that items are selected based on one or more predetermined criteria (col. 3, lines 16-18); each individual predetermined criteria, whether entered by the user or not, is analogous to the claimed constraint forming rules.

47. Regarding the Applicants' argument that the teaching of the **Jarke et al.** reference is not analogous to the claimed limitation of determining an order in which to apply the recommendation and constraint filters (beginning on page 13, middle paragraph, of the Applicants' Remarks), the examiner respectfully disagrees.

The claimed invention determines the cost of applying the constraint filter and the recommendation filter in different orders (specification, page 15, lines 4-5). As taught by the cost equation disclosed on page 15, lines 17-21, the determination of cost is meant to minimize the number of items that pass the first applied filter and are subsequently removed by the second filter. It is more efficient to apply the narrower filter first, since it will remove more items from consideration sooner, and thus minimize the number of items that need to be tested against the broader filter.

The **Jarke et al.** reference teaches the determination of the most efficient sequence of operations of intermediate results leading from existing relations to the final result of a query; that is, an access plan (see page 134, col. 2, section 5 'Access Plans'). All reasonable access plans are generated, the access plans are augmented by details about the physical representation of the data, and the cheapest access plan is chosen by applying a model of access and processing cost (see page 134, col. 2, last paragraph through page 135, col. 1, first paragraph).

The Applicants' argue that the two methods are not analogous, because the claimed method "constitutes significant processing over and above simple data retrieval" (page 14, last paragraph of Applicants' Remarks). Furthermore, the application of constraint and recommendation filters as claimed involves performing filtering calculations on data that has already been retrieved from a database (page 15, first paragraph).

However, the filtering criteria can be (and usually is) applied to the retrieval of data from a database, and the choice of the access plan (the sequence of operations or of intermediate results) that minimizes processing costs is completely analogous to the claimed determination of order of filters. Thus, the rejection of record is maintained.

48. Regarding the Applicants' argument pertaining to claims 4 and 19 (the constraint filter contains free variables), the examiner notes that in the specification at page 7, lines 7-10, it is disclosed that a free variable defines a variable constraint that can be entered by the user at run-time.

At col. 3, lines 33-38, Hey teaches that the user can select a specific item. Furthermore, at col. 3, lines 22-24, it is disclosed that the user can enter selection criteria prior to the recommendation process. These passages clearly teach the existence of a constraint filter containing free variables.

49. Regarding the Applicants' argument pertaining to claims 6 and 21 (the constraint filter contains a boolean constrain), the examiner notes that the Applicants' state that a boolean constraint filter comprises a filter that contains several individual constraints linked via boolean logic (see Remarks, page 16, first paragraph).

At col. 3, lines 16-18, Hey teaches that items are selected based on one or more predetermined criteria and on the availability of the item from the source. The application of such criteria would necessarily involve the combination of each individual predetermined criteria, along with the availability criteria, joined together through a boolean 'AND'.

50. Regarding the Applicants' argument pertaining to claims 7 and 23 (the constraint filter includes a constraint that signifies equality), the examiner has failed to locate a specific disclosure in the specification that teaches a constraint that signifies equality. However, the examiner interprets this limitation with the plain meaning of the word, that is, that some value is tested against an item attribute for equality.

At a minimum, the use of availability as a criteria would constitute a constraint that signifies equality; e.g., does the 'available' flag = 1? Furthermore, the fact that Hey teaches that items are selected based on one or more predetermined criteria (see col. 3, lines 16-18 and 22-24) requires the inclusion of equality constraints. Certainly the selection of a specific item, as taught at col. 3, lines 33-34, would require the use of an equality constraint, such as 'movie title = "Gone With the Wind"'.

51. Regarding the Applicants' argument pertaining to claims 9, 11, 12, 24, 26 and 27 (collaborative filtering/obtaining the constraint from the operator), the examiner notes that collaborative filtering means obtaining data from the user and adding the data to the constraint filter (see Remarks, page 16, third paragraph).

At col. 3, lines 22-24, Hey teaches that the predetermined criteria may be specified by the user prior to the recommendation process, analogous to the claimed limitations.

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Furthermore, the term 'memory', given its plain meaning, includes the random access memory of the processing system, and thus the constraint filter would have to be stored in memory in order for the filtering process to take place, otherwise there would be no way to test the items against said constraint filter.

### *Conclusion*

52. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke S. Wassum whose telephone number is 703-305-5706. The examiner can normally be reached on Monday-Friday 8:30-5:30, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on 703-305-9790. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

In addition, INFORMAL or DRAFT communications may be faxed directly to the examiner at 703-746-5658.


Customer Service for Tech Center 2100 can be reached during regular business hours at (703) 306-5631, or fax (703) 746-7240.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



Luke S. Wassum  
Art Unit 2177

lsw  
July 23, 2003



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